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Ile Phe Thr Lys Ser Asn Leu Ala Asn Ser 5

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Ala Thr Arg Leu Ala Gln Lys Asp Pro Ala Phe Ala Ser Ile Arg Ser

Leu Asn Tyr Lys Lys Met Leu Leu Leu Ser Leu Gly Thr Gly Thr Thr 65 70

Ser Glu Phe Asp Lys Thr Tyr Thr Ala Lys Glu Ala Ala Thr Trp Thr 90

Ala Val His Trp Met Leu Val Ile Gln Lys Met Thr Asp Ala Ala Ser 105

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Arg Lys Lys Leu Arg Ala Asn Lys Ala Ser Tyr Gly Pro Gly Gln Leu 195 200 205
Gly Glu Met Val Thr Val Leu Ser Ile Asp Gly Gly Ile Arg Gly 210 215 220
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Gly Gly Thr Ser Thr Gly Gly Leu Leu Thr Ala Met Ile Ser Thr Pro 260 265 270
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Tyr Phe Glu His Gly Pro Gln Ile Phe Asn Pro Ser Gly Gln Ile Leu 290 295 300
Gly Pro Lys Tyr Asp Gly Lys Tyr Leu Met Gln Val Leu Gln Glu Lys 305 310 315 320
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Tyr	Tyr	Leu 35	Ser	Thr	Ala	Phe	Gln 40	Ala	Leu	Asp	Ser	Lys 45	Asn	Asn	Tyr
Leu	Arg 50	Val	Gln	Glu	Asn	Ala 55	Leu	Thr	Gly	Thr	Thr 60	Thr	Glu	Met	Asp
Asp 65	Ala	Ser	Glu	Ala	Asn 70	Met	Glu	Leu	Leu	Val 75	Gln	Val	Gly	Glu	Asn 80
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Ala	Leu	Lys	Arg 100	Phe	Ala	Lys	Leu	Leu 105	Ser	Asp	Arg	Lys	Lys 110	Leu	Arg
Ser	Asn	Lys 115	Ala	Ser	Tyr	Gly	Pro 120	Gly	Gln	Leu	Gly	Glu 125	Met	Val	Thr
Val	Leu 130	Ser	Ile	Asp	Gly	Gly 135	Gly	Ile	Arg	Gly	Ile 140	Ile	Pro	Ala	Thr
Ile 145	Leu	Glu	Phe	Leu	Glu 150	Gly	Gln	Leu	Gln	Glu 155	Met	Asp	Asn	Asn	Ala 160
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67

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Lys Glu I 145	le Val	Pro	Phe 150	Tyr	Phe	Glu	His	Gly 155	Pro	Gln	Ile	Phe	Asn 160	
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Pro His Tyr Phe Val Thr Asn Thr Ser Asn Gly Asp Glu Tyr Glu Phe 245 250 255	
Asn Leu Val Asp Gly Ala Val Ala Thr Val Ala Asp Pro Ala Leu Leu 260 265 270	
Ser Ile Ser Val Ala Thr Arg Leu Ala Gln Lys Asp Pro Ala Phe Ala 275 280 285	
Ser Ile Arg Ser Leu Asn Tyr Lys Lys Met Leu Leu Ser Leu Gly 290 295 300	
Thr Gly Thr Thr Ser Glu Phe Asp Lys Thr Tyr Thr Ala Lys Glu Ala 305 310 315 320	
Ala Thr Trp Thr Ala Val His Trp Met Leu Val Ile Gln Lys Met Thr 325 330 335	
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Glu Phe Leu Glu Gly Gln Leu Gln Glu Met Asp Asn Asn Ala Asp Ala 50 55 60

Arg Leu Ala Asp Tyr Phe Asp Val Ile Gly Gly Thr Ser Thr Gly Gly 65 70 75 80

Leu Leu Thr Ala Met Ile Ser Thr Pro Asn Glu Asn Asn Arg Pro Phe 85 90 95

Ala Ala Ala Lys Glu Ile Val Pro Phe Tyr Phe Glu His Gly Pro Gln 100 105 110

Ile Phe Asn Pro Ser Gly Gln Ile Leu Gly Pro Lys Tyr Asp Gly Lys
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Tyr Leu Met Gln Val Leu Gln Glu Lys Leu Gly Glu Thr Arg Val His 130 135 140

Gln Ala Leu Thr Glu Val Val Ile Ser Ser Phe Asp Ile Lys Thr Asn 145 150 155 160 H: 544092(BNT_01LDOC) 70

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Gln Lys Met Thr Asp Ala Ala Ser Ser Tyr Met Thr Asp Tyr Tyr Leu 70

Ser Thr Ala Phe Gln Ala Leu Asp Ser Lys Asn Asn Tyr Leu Arg Val

Gln Glu Asn Ala Leu Thr Gly Thr Thr Thr Glu Met Asp Asp Ala Ser 100

Glu Ala Asn Met Glu Leu Leu Val Gln Val Gly Glu Asn Leu Leu Lys

Lys Pro Val Ser Glu Asp Asn Pro Glu Thr Tyr Glu Glu Ala Leu Lys 130 135 140

Arg Phe Ala Lys Leu Leu Ser Asp Arg Lys Leu Arg Ala Asn Lys 150 145

Ala Ser Tyr Gly Pro Gly Gln Leu Gly Glu Met Val Thr Val Leu Ser 170

Ile Asp Gly Gly Ile Arg Gly Ile Ile Pro Ala Thr Ile Leu Glu H: 544092(BNT_01!.DOC)

180 185 190

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Leu Ala Asp Tyr Phe Asp Val Ile Gly Gly Thr Ser Thr Gly Gly Leu 210 215 220

Leu Thr Ala Met Ile Ser Thr Pro Asn Glu Asn Asn Arg Pro Phe Ala 225 230 235 240

Ala Ala Lys Glu Ile Val Pro Phe Tyr Phe Glu His Gly Pro Gln Ile 245 250 255

Phe Asn Pro Ser Gly Gln Ile Leu Gly Pro Lys Tyr Asp Gly Lys Tyr 260 265 270

Leu Met Gln Val Leu Gln Glu Lys Leu Gly Glu Thr Arg Val His Gln 275 280 285

Ala Leu Thr Glu Val Val Ile Ser Ser Phe Asp Ile Lys Thr Asn Lys 290 295 300

Pro Val Ile Phe Thr Lys Ser Asn Leu Ala Asn Ser Pro Glu Leu Asp 305 310 315 320

Ala Lys Met Tyr Asp Ile Ser Tyr Ser Thr Ala Ala Ala Pro Thr Tyr 325 330 335

Phe Pro Pro His Tyr Phe Val Thr Asn Thr Ser Asn Gly Asp Glu Tyr 340 345 350

Glu Phe Asn Leu Val Asp Gly Ala Val Ala Thr Val Ala Asp Pro Ala 355 360 365

Leu Leu Ser Ile Ser Val Ala Thr Arg Leu Ala Gln Lys Asp Pro Ala 370 375 380

Phe Ala Ser Ile Arg 385

<210> 272

<211> 55

<212> DNA

<213> Artificial

<220>

<223> Synthetic construct

<400> 272

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<210> 273

<211> 39

<212> DNA

<213> Artificial

<220>

<223> Synthetic construct

<400> 273 H: 544092(BNT_01!.DOC)

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gtcatccaga agatgacgga cgccgcttcc agctacatga ccgactacta cctctccact	180
gcgttccagg cgcttgactc caagaacaac tacctccgtg ttcaggagaa tgccctcact	240
ggcaccacga ccgagatgga cgatgcctcc gaggccaaca tggagctgct cgtccaggtg	300
ggtgagaacc teetgaagaa geeegtetee gaagacaate eegagaeeta tgaggaageg	360
ctcaagcgct ttgccaagct gctctctgat aggaagaaac tccgcgctaa caaggccagc	420
tacggaccag gacagctcgg cgagatggtg accgtgctct ccatcgacgg cggtggcatc	480
aggggcatca teceggecae cateetggag tteetggagg gecaaeteea ggagatggae	540
aacaacgccg acgcccgcct ggccgactac ttcgacgtga tcggtggcac cagcaccggc	600
ggtctcctga ccgccatgat ctccactccg aacgagaaca accgcccctt cgccgctgcg	660
aaggagatcg teeegtteta ettegaacae ggeeeteaga tttteaacee etegggteaa	720
atcctgggcc ccaagtacga cggcaagtac cttatgcaag tgcttcagga gaagctgggc	780
gagactaggg tgcaccaggc gctgaccgag gtcgtcatct ccagcttcga catcaagacc	840
aacaagccag tcatcttcac caagtccaac ctggccaaca gcccggagct ggacgctaag	900
atgtacgaca tetectacte caetgetgee geteceaegt aettecetee geaetactte	960
gtcaccaaca ccagcaacgg cgacgagtac gagttcaacc ttgttgacgg tgcggtggct	1020
acggtggcgg acccggcgct cctgtccatc agcgtcgcca cgcgcctggc ccagaaggat	1080
ccagcetteg etageattag gageeteaae tacaagaaga tgetgetget eageetggge	1140
actggcacga cctccgagtt cgacaag	1167
<210> 275 <211> 389 <212> PRT <213> Artificial	
<220> <223> Synthetic polypeptide	
<400> 275	

Met 1	Ala	Thr	Thr	Lys : 5	Ser 1	Phe	Leu	Ile	Leu 10	Ile	Phe	Met	Ile	Leu 15	Ala
Thr	Thr	Ser	Ser 20	Thr	Phe I	Ala	Thr	Tyr 25	Thr	Ala	Lys	Glu	Ala 30	Ala	Thr
Trp	Thr	Ala 35	Val	His	Trp	Met	Leu 40	Val	Ile	Gln	Lys	Met 45	Thr	Asp	Ala
Ala	Ser 50	Ser	Tyr	Met	Thr	Asp 55	Tyr	Tyr	Leu	Ser	Thr 60	Ala	Phe	Gln	Ala
Leu 65	Asp	Ser	Lys	Asn	Asn 70	Tyr	Leu	Arg	Val	Gln 75	Glu	Asn	Ala	Leu	Thr 80
Gly	Thr	Thr	Thr	Glu 85	Met	Asp	Asp	Ala	Ser 90	Glu	Ala	Asn	Met	Glu 95	Leu
Leu	Val	Gln	Val 100	Gly	Glu	Asn	Leu	Leu 105	Lys	Lys	Pro	Val	Ser 110	Glu	Asp
Asn	Pro	Glu 115		Tyr	Glu	Glu	Ala 120	Leu	Lys	Arg	Phe	Ala 125	Lys	Leu	Leu
Ser	Asp 130		Lys	Lys	Leu	Arg 135	Ala	Asn	Lys	Ala	Ser 140	Tyr	Gly	Pro	Gly
Gln 145		Gly	Glu	Met	Val 150	Thr	Val	Leu	Ser	Ile 155	Asp	Gly	Gly	Gly	Ile 160
Arg	Gly	, Ile	: Ile	Pro 165	Ala	Thr	Ile	Leu	Glu 170	Phe	Leu	Glu	Gly	Gln 175	Leu
Gln	Glu	ı Met	180	Asn	Asn	Ala	Asp	Ala 185	Arg	, Leu	Ala	Asp	Tyr 190	Phe	Asp
Val	. Ile	e Gly 195		Thr	Ser	Thr	Gly 200	Gly	Leu	ı Leu	Thr	205	Met	Ile	Ser
Thr	210		n Glu	ı Asn	Asn	Arg 215	Pro	Phe	e Alá	a Ala	Ala 220	Lys)	s Glu	Ile	Val
Pro 225		э Ту:	r Phe	e Glu	His 230	Gly	Pro	Glr	ı Ile	235	e Asr	n Pro	Ser	: Gly	Gln 240
Ile	e Lei	u Gl	y Pro	245		Asp	Gly	/ Lys	250	r Lei	ı Met	: Glr	n Val	Let 255	Gln
Glı	ı Ly	s Le	u Gly 260		Thr	Arç	y Val	His 265	Gli 5	n Ala	a Lei	Thı ב	r Glu 270	ı Val	. Val
Il	e Se	r Se 27		e Asp) Ile	e Lys	280	Ası	n Ly	s Pro	o Vai	1 Ile 28	e Phe 5	e Thi	Lys
Se	r As 29		u Ala	a Asr	n Ser	295		Le د	u As	p Al	a Ly 30	s Me	t Ty	r Asp	o Ile
Se 30		r Se	r Th	r Alá	a Ala 310	a Ala	a Pro	o Th	r Ty	r Ph 31	e Pr 5	o Pr	o Hi	з Ту:	r Phe 320
Va н: 54	1 Th	r As	n Th	r Sei	c Asr	n Gl	y As	p Gl	u Ty	r Gl 76	u Ph	e As	n Le	u Va	l Asp

325 330 335

Gly Ala Val Ala Thr Val Ala Asp Pro Ala Leu Leu Ser Ile Ser Val 340 345 350

Ala Thr Arg Leu Ala Gln Lys Asp Pro Ala Phe Ala Ser Ile Arg Ser 355 360 365

Leu Asn Tyr Lys Lys Met Leu Leu Leu Ser Leu Gly Thr Gly Thr Thr 370 375 380

Ser Glu Phe Asp Lys 385

<210> 276

<211> 7

<212> PRT

<213> Artificial

<220>

<223> Synthetic polypeptide

<400> 276

Gly Gly Gly Ser Gly Gly Gly 1

<210> 277

<211> 3

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<223> Synthetic polypeptide

<400> 277

Gly Pro Gly

<210> 278

<211> 386

<212> PRT

<213> Solanum tuberosum

<400> 278

Met Ala Thr Thr Lys Ser Phe Leu Ile Leu Phe Phe Met Ile Leu Ala 1 5 10 15

Thr Thr Ser Ser Thr Cys Ala Lys Leu Glu Glu Met Val Thr Val Leu 20 25 30

Ser Ile Asp Gly Gly Gly Ile Lys Gly Ile Ile Pro Ala Ile Ile Leu 35 40 45

Glu Phe Leu Glu Gly Gln Leu Gln Glu Val Asp Asn Asn Lys Asp Ala 50 55 60

Arg Leu Ala Asp Tyr Phe Asp Val Ile Gly Gly Thr Ser Thr Gly Gly 65 70 75 80
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Leu Leu Thr Ala Met Ile Thr Thr Pro Asn Glu Asn Asn Arg Pro Phe 85 90 95

Ala Ala Lys Asp Ile Val Pro Phe Tyr Phe Glu His Gly Pro His 100 105 110

Ile Phe Asn Tyr Ser Gly Ser Ile Ile Gly Pro Met Tyr Asp Gly Lys
115 120 125

Tyr Leu Leu Gln Val Leu Gln Glu Lys Leu Gly Glu Thr Arg Val His 130 135 140

Gln Ala Leu Thr Glu Val Ala Ile Ser Ser Phe Asp Ile Lys Thr Asn 145 150 155 160

Lys Pro Val Ile Phe Thr Lys Ser Asn Leu Ala Lys Ser Pro Glu Leu 165 170 175

Asp Ala Lys Met Tyr Asp Ile Cys Tyr Ser Thr Ala Ala Ala Pro Ile 180 185 190

Tyr Phe Pro Pro His Tyr Phe Ile Thr His Thr Ser Asn Gly Asp Ile 195 200 205

Tyr Glu Phe Asn Leu Val Asp Gly Gly Val Ala Thr Val Gly Asp Pro 210 215 220

Ala Leu Leu Ser Leu Ser Val Ala Thr Arg Leu Ala Gln Glu Asp Pro 225 230 235 240

Ala Phe Ser Ser Ile Lys Ser Leu Asp Tyr Lys Gln Met Leu Leu Leu 245 250 255

Ser Leu Gly Thr Gly Thr Asn Ser Glu Phe Asp Lys Thr Tyr Thr Ala 260 265 270

Gln Glu Ala Ala Lys Trp Gly Pro Leu Arg Trp Met Leu Ala Ile Gln 275 280 285

Gln Met Thr Asn Ala Ala Ser Ser Tyr Met Thr Asp Tyr Tyr Ile Ser 290 295 300

Thr Val Phe Gln Ala Arg His Ser Gln Asn Asn Tyr Leu Arg Val Gln 305 310 315 320

Glu Asn Ala Leu Thr Gly Thr Thr Thr Glu Met Asp Asp Ala Ser Glu 325 330 335

Ala Asn Met Glu Leu Leu Val Gln Val Gly Glu Thr Leu Leu Lys Lys 340 345 350

Pro Val Ser Lys Asp Ser Pro Glu Thr Tyr Glu Glu Ala Leu Lys Arg 355 360 365

Phe Ala Lys Leu Leu Ser Asp Arg Lys Lys Leu Arg Ala Asn Lys Ala 370 375 380

Ser Tyr 385

- <210> 279
- <211> 386
- <212> PRT
- <213> Solanum tuberosum

<400> 279

- Met Ala Thr Thr Lys Ser Val Leu Val Leu Phe Phe Met Ile Leu Ala 1 5 10 15
- Thr Thr Ser Ser Thr Cys Ala Thr Leu Gly Glu Met Val Thr Val Leu 20 25 30
- Ser Ile Asp Gly Gly Gly Ile Lys Gly Ile Ile Pro Ala Thr Ile Leu 35 40 45
- Glu Phe Leu Glu Gly Gln Leu Gln Glu Val Asp Asn Asn Lys Asp Ala 50 55 60
- Arg Leu Ala Asp Tyr Phe Asp Val Ile Gly Gly Thr Ser Thr Gly Gly 65 70 75 80
- Leu Leu Thr Ala Met Ile Thr Thr Pro Asn Glu Asn Asn Arg Pro Phe 85 90 95
- Ala Ala Ala Lys Asp Ile Val Pro Phe Tyr Phe Glu His Gly Pro His
 100 105 110
- Ile Phe Asn Ser Ser Gly Ser Ile Phe Gly Pro Met Tyr Asp Gly Lys
 115 120 125
- Tyr Phe Leu Gln Val Leu Gln Glu Lys Leu Gly Glu Thr Arg Val His 130 135 140
- Gln Ala Leu Thr Glu Val Ala Ile Ser Ser Phe Asp Ile Lys Thr Asn 145 150 155 160
- Lys Pro Val Ile Phe Thr Lys Ser Asn Leu Ala Lys Ser Pro Glu Leu 165 170 175
- Asp Ala Lys Met Asn Asp Ile Cys Tyr Ser Thr Ala Ala Ala Pro Thr 180 185 190
- Tyr Phe Pro Pro His Tyr Phe Val Thr His Thr Ser Asn Gly Asp Lys 195 200 205
- Tyr Glu Phe Asn Leu Val Asp Gly Ala Val Ala Thr Val Gly Asp Pro 210 215 220
- Ala Leu Leu Ser Leu Ser Val Arg Thr Lys Leu Ala Gln Val Asp Pro 225 230 235 240
- Lys Phe Ala Ser Ile Lys Ser Leu Asn Tyr Asn Glu Met Leu Leu 245 250 255
- Ser Leu Gly Thr Gly Thr Asn Ser Glu Phe Asp Lys Thr Tyr Thr Ala 260 265 270
- Glu Glu Ala Ala Lys Trp Gly Pro Leu Arg Trp Ile Leu Ala Ile Gln 275 280 285

Gln Met Thr Asn Ala Ala Ser Ser Tyr Met Thr Asp Tyr Tyr Leu Ser 290 295 300

Thr Val Phe Gln Ala Arg His Ser Gln Asn Asn Tyr Leu Arg Val Gln 305 310 315 320

Glu Asn Ala Leu Thr Gly Thr Thr Thr Glu Met Asp Asp Ala Ser Glu 325 330 335

Ala Asn Met Glu Leu Leu Val Gl
n Val Gly Glu Lys Leu Leu Lys Lys $340 \hspace{1.5cm} 345 \hspace{1.5cm} 350 \hspace{1.5cm}$

Pro Val Ser Lys Asp Ser Pro Glu Thr Tyr Glu Glu Ala Leu Lys Arg 355 360 365

Phe Ala Lys Leu Leu Ser Asp Arg Lys Leu Arg Ala Asn Lys Ala 370 375 380

Ser Tyr 385

<210> 280

<211> 365

<212> PRT

<213> Solanum tuberosum

<400> 280

Met Ala Leu Glu Glu Met Val Ala Val Leu Ser Ile Asp Gly Gly 1 5 10 15

Ile Lys Gly Ile Ile Pro Gly Thr Ile Leu Glu Phe Leu Glu Gly Gln 20 25 30

Leu Gln Lys Met Asp Asn Asn Ala Asp Ala Arg Leu Ala Asp Tyr Phe 35 40 45

Asp Val Ile Gly Gly Thr Ser Thr Gly Gly Leu Leu Thr Ala Met Ile 50 55 60

Thr Thr Pro Asn Glu Asn Asn Arg Pro Phe Ala Ala Ala Asn Glu Ile 70 75 80

Val Pro Phe Tyr Phe Glu His Gly Pro His Ile Phe Asn Ser Arg Tyr 85 90 95

Trp Pro Ile Phe Trp Pro Lys Tyr Asp Gly Lys Tyr Leu Met Gln Val 100 105 110

Leu Gln Glu Lys Leu Gly Glu Thr Arg Val His Gln Ala Leu Thr Glu 115 120 125

Val Ala Ile Ser Ser Phe Asp Ile Lys Thr Asn Lys Pro Val Ile Phe 130 135 140

Thr Lys Ser Asn Leu Ala Lys Ser Pro Glu Leu Asp Ala Lys Thr Tyr 145 150 155 160

Asp Ile Cys Tyr Ser Thr Ala Ala Ala Pro Thr Tyr Phe Pro Pro His 165 170 175

Tyr Phe Ala Thr Asn Thr Ile Asn Gly Asp Lys Tyr Glu Phe Asn Leu 180 185 190

Val Asp Gly Ala Val Ala Thr Val Ala Asp Pro Ala Leu Leu Ser Val 195 200 205

Ser Val Ala Thr Arg Arg Ala Gln Glu Asp Pro Ala Phe Ala Ser Ile 210 215 220

Arg Ser Leu Asn Tyr Lys Lys Met Leu Leu Leu Ser Leu Gly Thr Gly 225 230 235 240

Thr Thr Ser Glu Phe Asp Lys Thr His Thr Ala Glu Glu Thr Ala Lys 245 250 255

Trp Gly Ala Leu Gln Trp Met Leu Val Ile Gln Gln Met Thr Glu Ala 260 265 270

Ala Ser Ser Tyr Met Thr Asp Tyr Tyr Leu Ser Thr Val Phe Gln Asp 275 280 285

Leu His Ser Gln Asn Asn Tyr Leu Arg Val Gln Glu Asn Ala Leu Thr 290 295 300

Gly Thr Thr Thr Lys Ala Asp Asp Ala Ser Glu Ala Asn Met Glu Leu 305 310 315 320

Leu Ala Gln Val Gly Glu Asn Leu Leu Lys Lys Pro Val Ser Lys Asp 325 330 335

Asn Pro Glu Thr Tyr Glu Glu Ala Leu Lys Arg Phe Ala Lys Leu Leu 340 345 350

Ser Asp Arg Lys Lys Leu Arg Ala Asn Lys Ala Ser Tyr 355 360 365

<210> 281

<211> 364

<212> PRT

<213> Solanum tuberosum

<400> 281

Pro Trp Leu Glu Glu Met Val Thr Val Leu Ser Ile Asp Gly Gly 1 5 10 15

Ile Lys Gly Ile Ile Pro Ala Ile Ile Leu Glu Phe Leu Glu Gly Gln 20 25 30

Leu Gln Glu Val Asp Asn Asn Lys Asp Ala Arg Leu Ala Asp Tyr Phe 35 40 45

Asp Val Ile Gly Gly Thr Ser Thr Gly Gly Leu Leu Thr Ala Met Ile 50 55 60

Thr Thr Pro Asn Glu Asn Asn Arg Pro Phe Ala Ala Ala Lys Asp Ile 70 75 80

Val Pro Phe Tyr Phe Glu His Gly Pro His Ile Phe Asn Tyr Ser Gly 85 90 95

Ser Ile Leu Gly Pro Met Tyr Asp Gly Lys Tyr Leu Leu Gln Val Leu 100 105 110

Gln Glu Lys Leu Gly Glu Thr Arg Val His Gln Ala Leu Thr Glu Val 115 120 125

Ala Ile Ser Ser Phe Asp Ile Lys Thr Asn Lys Pro Val Ile Phe Thr 130 135 140 .

Lys Ser Asn Leu Ala Lys Ser Pro Glu Leu Asp Ala Lys Met Tyr Asp 145 150 155 160

Ile Cys Tyr Ser Thr Ala Ala Ala Pro Ile Tyr Phe Pro Pro His His 165 170 175

Phe Val Thr His Thr Ser Asn Gly Ala Arg Tyr Glu Phe Asn Leu Val 180 185 190

Asp Gly Ala Val Ala Thr Val Gly Asp Pro Ala Leu Leu Ser Leu Ser 195 200 205

Val Ala Thr Arg Leu Ala Gln Glu Asp Pro Ala Phe Ser Ser Ile Lys 210 215 220

Ser Leu Asp Tyr Lys Gln Met Leu Leu Leu Ser Leu Gly Thr Gly Thr 225 230 235 240

Asn Ser Glu Phe Asp Lys Thr Tyr Thr Ala Glu Glu Ala Ala Lys Trp
245 250 255

Gly Pro Leu Arg Trp Met Leu Ala Ile Gln Gln Met Thr Asn Ala Ala 260 265 270

Ser Phe Tyr Met Thr Asp Tyr Tyr Ile Ser Thr Val Phe Gln Ala Arg 275 280 285

His Ser Gln Asn Asn Tyr Leu Arg Val Gln Glu Asn Ala Leu Asn Gly 290 295 300

Thr Thr Thr Glu Met Asp Asp Ala Ser Glu Ala Asn Met Glu Leu Leu 305 310 315 320

Val Gln Val Gly Glu Thr Leu Leu Lys Lys Pro Val Ser Arg Asp Ser 325 330 335

Pro Glu Thr Tyr Glu Glu Ala Leu Lys Arg Phe Ala Lys Leu Leu Ser 340 345 350

Asp Arg Lys Lys Leu Arg Ala Asn Lys Ala Ser Tyr 355 360

<210> 282

<211> 386

<212> PRT

<213> Solanum tuberosum

<400> 282

Met Ala Thr Thr Lys Ser Phe Leu Ile Leu Phe Phe Met Ile Leu Ala 1 5 10 15

Thr	Thr	Ser	Ser 20	Thr	Cys	Ala	Lys	Leu 25	Glu	Glu	Met	Val	Thr 30	Val	Leu
Ser	Ile	Asp 35	Gly	Gly	Gly	Ile	Lys 40	Gly	Ile	Ile	Pro	Ala 45	Ile	Ile	Leu
Glu	Phe 50	Leu	Glu	Gly	Gln	Leu 55	Gln	Glu	Val	Asp	Asn 60	Asn	Lys	Asp	Ala
Arg 65	Leu	Ala	Asp	Tyr	Phe 70	Asp	Val	Ile	Gly	Gly 75	Thr	Ser	Thr	Gly	Gly 80
Leu	Leu	Thr	Ala	Met 85	Ile	Thr	Thr	Pro	Asn 90	Glu	Asn	Asn	Arg	Pro 95	Phe
Ala	Ala	Ala	Lys 100	Asp	Ile	Val	Pro	Phe 105	Tyr	Phe	Glu	His	Gly 110	Pro	His
Ile	Phe	Asn 115	Tyr	Ser	Gly	Ser	Ile 120	Leu	Gly	Pro	Met	Tyr 125	Asp	Gly	Lys
Tyr	Leu 130	Leu	Gln	Val	Leu	Gln 135	Glu	Lys	Leu	Gly	Glu 140	Thr	Arg	Val	His
Gln 145	Ala	Leu	Thr	Glu	Val 150	Ala	Ile	Ser	Ser	Phe 155	Asp	Ile	Lys	Thr	Asn 160
Lys	Pro	Val	Ile	Phe 165	Thr	Lys	Ser	Asn	Leu 170	Ala	Lys	Ser	Pro	Glu 175	Leu
Asp	Ala	Lys	Met 180	Tyr	Asp	Ile	Cys	Tyr 185	Ser	Thr	Ala	Ala	Ala 190	Pro	Ile
Tyr	Phe	Pro 195	Pro	His	His	Phe	Val 200	Thr	His	Thr	Ser	Asn 205	Gly	Ala	Arg
Tyr	Glu 210	Phe	Asn	Leu	Val	Asp 215	Gly	Ala	Val	Ala	Thr 220	Val	Gly	Asp	Pro
Ala 225	Leu	Leu	Ser	Leu	Ser 230	Val	Ala	Thr	Arg	Leu 235	Ala	Gln	Glu	Asp	Pro 240
Ala	Phe	Ser	Ser	Ile 245	Lys	Ser	Leu	Asp	Tyr 250		Gln	Met	Leu	Leu 255	Leu
Ser	Leu	Gly	Thr 260	Gly	Thr	Asn	Ser	Glu 265	Phe	Asp	Lys	Thr	Tyr 270	Thr	Ala
Glu	Glu	Ala 275		Lys	Trp	Gly	Pro 280	Leu	Arg	Trp	Met	Leu 285		Ile	Gln
Gln	Met 290		Asn	Ala	Ala	Ser 295		Tyr	Met	Thr	Asp 300		Tyr	Ile	Ser
Thr 305		Phe	Gln	Ala	Arg 310		Ser	Gln	Asn	Asn 315		Leu	Arg	Val	Gln 320
Glu	Asn	Ala	Leu	Asn 325		Thr	Thr	Thr	Glu 330		Asp	Asp	Ala	Ser 335	Glu
	Asn 292(BNT_			Leu	Leu	Val	Gln	Val		Ala	Thr	Leu	Leu	Lys	Lys

340 345 350

Pro Val Ser Lys Asp Ser Pro Glu Thr Tyr Glu Glu Ala Leu Lys Arg 360 Phe Ala Lys Leu Ser Asp Arg Lys Leu Arg Ala Asn Lys Ala 375 380 Ser Tyr 385 <210> 283 <211> 10 <212> PRT <213> Artificial <220> <223> Synthetic polypeptide <400> 283 Ala Phe Phe Asp Lys Thr Tyr Thr Ala Lys <210> 284 <211> 10 <212> PRT <213> Artificial <220> <223> Synthetic polypeptide <400> 284 Cys Ile Phe Asp Ser Thr Tyr Thr Ala Lys 5 <210> 285 <211> 1161 <212> DNA <213> Solanum tuberosum <400> 285 60 atggcaacta ctaaatcttt tttaatttta atatttatga tattagcaac tactagttca acatttgctc agttgggaga aatggtgact gttcttagta ttgatggagg tggaattaga 120 gggatcattc cggctaccat tctcgaattt cttgaaggac aacttcagga aatggacaat 180 aatqcaqatq caagacttqc agattacttt gatgtaattg gaggaacaag tacaggaggt 240 300 ttattgactg ctatgataag tactccaaat gaaaacaatc gaccctttgc tgctgccaaa 360 qaaattqtac ctttttactt cqaacatggc cctcagattt ttaatcctag tggtcaaatt ttaggcccaa aatatgatgg aaaatatctt atgcaagttc ttcaagaaaa acttggagaa 420 actcqtqtqc atcaaqcttt qacaqaaqtt qtcatctcaa qctttqacat caaaacaaat 480

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540

aagccagtaa tattcactaa gtcaaattta gcaaactctc cagaattgga tgctaagatg

tatgacataa	gttattccac	agcagcagct	ccaacatatt	ttcctccgca	ttactttgtt	600
actaatacta	gtaatggaga	tgaatatgag	ttcaatcttg	ttgatggtgc	tgttgctact	660
gttgctgatc	cggcgttatt	atccattagc	gttgcaacga	gacttgcaca	aaaggatcca	720
gcatttgctt	caattaggtc	attgaattac	aaaaaaatgc	tgttgctctc	attaggcact	780
ggcactactt	cagagtttga	taaaacatat	acagcaaaag	aggcagctac	ctggactgct	840
gtacattgga	tgttagttat	acagaaaatg	actgatgcag	caagttctta	catgactgat	900
tattaccttt	ctactgcttt	tcaagctctt	gattcaaaaa	acaattacct	cagggttcaa	960
gaaaatgcat	taacaggcac	aactactgaa	atggatgatg	cttctgaggc	taatatggaa	1020
ttattagtac	aagttggtga	aaacttattg	aagaaaccag	tttccgaaga	caatcctgaa	1080
acctatgagg	aagctctaaa	gaggtttgca	aaattgctct	ctgataggaa	gaaactccga	1140
gcaaacaaag	cttcttatta	a				1161

<210> 286

<400> 286

Met Ala Thr Thr Lys Ser Phe Leu Ile Leu Ile Phe Met Ile Leu Ala 1 5 10 15

Thr Thr Ser Ser Thr Phe Ala Gln Leu Gly Glu Met Val Thr Val Leu 20 25 30

Ser Ile Asp Gly Gly Gly Ile Arg Gly Ile Ile Pro Ala Thr Ile Leu 35 40 45

Glu Phe Leu Glu Gly Gln Leu Gln Glu Met Asp Asn Asn Ala Asp Ala 50 60

Arg Leu Ala Asp Tyr Phe Asp Val Ile Gly Gly Thr Ser Thr Gly Gly 65 70 75 80

Leu Leu Thr Ala Met Ile Ser Thr Pro Asn Glu Asn Asn Arg Pro Phe 85 90 95

Ala Ala Ala Lys Glu Ile Val Pro Phe Tyr Phe Glu His Gly Pro Gln
100 105 110

Ile Phe Asn Pro Ser Gly Gln Ile Leu Gly Pro Lys Tyr Asp Gly Lys
115 120 125

Tyr Leu Met Gln Val Leu Gln Glu Lys Leu Gly Glu Thr Arg Val His 130 135 140

Gln Ala Leu Thr Glu Val Val Ile Ser Ser Phe Asp Ile Lys Thr Asn 145 150 155 160

Lys Pro Val Ile Phe Thr Lys Ser Asn Leu Ala Asn Ser Pro Glu Leu 165 170 175

H: 544092(BNT_01!.DOC)

<211> 386

<212> PRT

<213> Solanum tuberosum

Asp Ala Lys Met Tyr Asp Ile Ser Tyr Ser Thr Ala Ala Pro Thr 185 Tyr Phe Pro Pro His Tyr Phe Val Thr Asn Thr Ser Asn Gly Asp Glu 200 Tyr Glu Phe Asn Leu Val Asp Gly Ala Val Ala Thr Val Ala Asp Pro 215 Ala Leu Leu Ser Ile Ser Val Ala Thr Arg Leu Ala Gln Lys Asp Pro 235 Ala Phe Ala Ser Ile Arg Ser Leu Asn Tyr Lys Lys Met Leu Leu Ser Leu Gly Thr Gly Thr Thr Ser Glu Phe Asp Lys Thr Tyr Thr Ala 265 Lys Glu Ala Ala Thr Trp Thr Ala Val His Trp Met Leu Val Ile Gln 280 Lys Met Thr Asp Ala Ala Ser Ser Tyr Met Thr Asp Tyr Tyr Leu Ser 295 Thr Ala Phe Gln Ala Leu Asp Ser Lys Asn Asn Tyr Leu Arg Val Gln 315 Glu Asn Ala Leu Thr Gly Thr Thr Glu Met Asp Asp Ala Ser Glu Ala Asn Met Glu Leu Leu Val Gln Val Gly Glu Asn Leu Leu Lys Lys 345 Pro Val Ser Glu Asp Asn Pro Glu Thr Tyr Glu Glu Ala Leu Lys Arg 360 Phe Ala Lys Leu Ser Asp Arg Lys Leu Arg Ala Asn Lys Ala 370 375 Ser Tyr 385 <210> 287 <211> 408 <212> PRT <213> Artificial <220> <223> Synthetic polypeptide <400> 287 Met Lys Ser Lys Met Ala Met Leu Leu Leu Phe Cys Val Leu Ser Asn Gln Leu Val Ala Ala Phe Ser Thr Gln Ala Lys Ala Ser Lys Asp 20 Gly Asn Leu Val Thr Val Leu Ala Ile Asp Gly Gly Gly Ile Arg Gly

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45

Ile	Ile	Pro	Gly	Val	Ile	Leu	Lys	Gln	Leu	Glu	Ala	Thr	Leu	Gln	Arg
	50					55					60				

- Trp Asp Ser Ser Ala Arg Leu Ala Glu Tyr Phe Asp Val Val Ala Gly 65 70 75 80
- Thr Ser Thr Gly Gly Ile Ile Thr Ala Ile Leu Thr Ala Pro Asp Pro 85 90 95
- Gln Asn Lys Asp Arg Pro Leu Tyr Ala Ala Glu Glu Ile Ile Asp Phe 100 105 110
- Tyr Ile Glu His Gly Pro Ser Ile Phe Asn Lys Ser Thr Ala Cys Ser 115 120 125
- Leu Pro Gly Ile Phe Cys Pro Lys Tyr Asp Gly Lys Tyr Leu Gln Glu 130 135 140
- Ile Ile Ser Gln Lys Leu Asn Glu Thr Leu Leu Asp Gln Thr Thr 145 150 155 160
- Asn Val Val Ile Pro Ser Phe Asp Ile Lys Leu Leu Arg Pro Thr Ile 165 170 175
- Phe Ser Thr Phe Lys Leu Glu Glu Val Pro Glu Leu Asn Val Lys Leu 180 185 190
- Ser Asp Val Cys Met Gly Thr Ser Ala Ala Pro Ile Val Phe Pro Pro 195 200 205
- Tyr Tyr Phe Lys His Gly Asp Thr Glu Phe Asn Leu Val Asp Gly Ala 210 215 220
- Ile Ile Ala Asp Ile Pro Ala Pro Val Ala Leu Ser Glu Val Leu Gln 225 230 235 240
- Gln Glu Lys Tyr Lys Asn Lys Glu Ile Leu Leu Ser Ile Gly Thr 245 250 255
- Gly Val Val Lys Pro Gly Glu Gly Tyr Ser Ala Asn Arg Thr Trp Thr 260 265 270
- Ile Phe Asp Trp Ser Ser Glu Thr Leu Ile Gly Leu Met Gly His Gly 275 280 285
- Thr Arg Ala Met Ser Asp Tyr Tyr Val Gly Ser His Phe Lys Ala Leu 290 295 300
- Gln Pro Gln Asn Asn Tyr Leu Arg Ile Gln Glu Tyr Asp Leu Asp Pro 305 310 315 320
- Ala Leu Glu Ser Ilė Asp Asp Ala Ser Thr Glu Asn Met Glu Asn Leu 325 330 335
- Glu Lys Val Gly Gln Ser Leu Leu Asn Glu Pro Val Lys Arg Met Asn 340 345 350
- Leu Asn Thr Phe Val Val Glu Glu Thr Gly Glu Gly Thr Asn Ala Glu 355 360 365

Ala Leu Asp Arg Leu Ala Gln Ile Leu Tyr Glu Glu Lys Ile Thr Arg 370 375 380

Gly Leu Gly Lys Ile Ser Leu Glu Val Asp Asn Ile Asp Pro Tyr Thr 385 390 395 400

Glu Arg Val Arg Lys Leu Leu Phe 405

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Pro Pro Pro Ser Thr Gly Lys Leu Ile Thr Ile Leu Ser Ile Asp Gly 20 25 30

Gly Gly Ile Arg Gly Leu Ile Pro Ala Thr Ile Ile Ala Tyr Leu Glu 35 40 45

Ala Lys Leu Gln Glu Leu Asp Gly Pro Asp Ala Arg Ile Ala Asp Tyr 50 55 60

Phe Asp Val Ile Ala Gly Thr Ser Thr Gly Ala Leu Leu Ala Ser Met 65 70 75 80

Leu Ala Ala Pro Asp Glu Asn Asn Arg Pro Leu Phe Ala Ala Lys Asp 85 90 95

Leu Thr Thr Phe Tyr Leu Glu Asn Gly Pro Lys Ile Phe Pro Gln Lys
100 105 110

Lys Ala Gly Leu Leu Thr Pro Leu Arg Asn Leu Leu Gly Leu Val Arg 115 120 125

Gly Pro Lys Tyr Asp Gly Val Phe Leu His Asp Lys Ile Lys Ser Leu 130 135 140

Thr His Asp Val Arg Val Ala Asp Thr Val Thr Asn Val Ile Val Pro 145 150 155 160

Ala Phe Asp Val Lys Tyr Leu Gln Pro Ile Ile Phe Ser Thr Tyr Glu 165 170 175

Ala Lys Thr Asp Thr Leu Lys Asn Ala His Leu Ser Asp Ile Cys Ile 180 185 190

Ser Thr Ser Ala Ala Pro Thr Tyr Phe Pro Ala His Phe Phe Lys Thr 195 200 205

Glu Ala Thr Asp Gly Arg Pro Pro Arg Glu Tyr His Leu Val Asp Gly 210 215 220

Gly Val Ala Ala Asn Asn Pro Thr Met Val Ala Met Ser Met Leu Thr 225 230 235 240

Lys Glu Val His Arg Arg Asn Pro Asn Phe Asn Ala Gly Ser Pro Thr 245 250 255

Glu Tyr Thr Asn Tyr Leu Ile Ile Ser Val Gly Thr Gly Ser Ala Lys 260 265 270

Gln Ala Glu Lys Tyr Thr Ala Glu Gln Cys Ala Lys Trp Gly Leu Ile 275 280 285

Gln Trp Leu Tyr Asn Gly Gly Phe Thr Pro Ile Ile Asp Ile Phe Ser 290 295 300

His Ala Ser Ser Asp Met Val Asp Ile His Ala Ser Ile Leu Phe Gln 305 310 315 320

Ala Leu His Cys Glu Lys Lys Tyr Leu Arg Ile Gln Asp Asp Thr Leu 325 330 335

Thr Gly Asn Ala Ser Ser Val Asp Ile Ala Thr Lys Glu Asn Met Glu 340 345 350

Ser Leu Ile Ser Ile Gly Gln Glu Leu Leu Lys Lys Pro Val Ala Arg 355 360 365

Val Asn Ile Asp Thr Gly Val Tyr Glu Ser Cys Asp Gly Glu Gly Thr 370 375 380

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Lys Leu Arg Lys Ser Asn Leu Asn Ser Asn 405 410

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Leu Leu Val Gly Trp Ile Leu Phe Ser Leu Ala Ala Ser Pro Val Lys 20 25 30

Phe Gln Thr His Met Gly Ser Ile Gly Arg Gly Thr Ala Asn Cys Ala 35 40 45

Thr Val Pro Gln Pro Pro Pro Ser Thr Gly Lys Leu Ile Thr Ile Leu 50 55 60

Ser Ile Asp Gly Gly Gly Ile Arg Gly Leu Ile Pro Ala Thr Ile Ile 65 70 75 80

Ala Tyr Leu Glu Ala Lys Leu Gln Glu Leu Asp Gly Pro Asp Ala Arg 85 90 95

Ile Ala Asp Tyr Phe Asp Val Ile Ala Gly Thr Ser Thr Gly Ala Leu 100 105 110

Leu	Ala	Ser 115	Met	Leu	Ala	Ala	Pro 120	Asp	Glu	Asn	Asn	Arg 125	Pro	Leu	Phe
Ala	Ala 130	Lys	Asp	Leu	Thr	Thr 135	Phe	Tyr	Leu	Glu	Asn 140	Gly	Pro	Lys	Ile
Phe 145	Pro	Gln	Lys	Lys	Ala 150	Gly	Leu	Leu	Thr	Pro 155	Leu	Arg	Asn	Leu	Leu 160
Gly	Leu	Val	Arg	Gly 165	Pro	Lys	Tyr	Asp	Gly 170	Val	Phe	Leu	His	Asp 175	Lys
Ile	Lys	Ser	Leu 180	Thr	His	Asp	Val	Arg 185	Val	Ala	Asp	Thr	Val 190	Thr	Asn
Val	Ile	Val 195	Pro	Ala	Phe	Asp	Val 200	Lys	Tyr	Leu	Gln	Pro 205	Ile	Ile	Phe
Ser	Thr 210	Tyr	Glu	Ala	Lys	Thr 215	Asp	Ala	Leu	Lys	Asn 220	Ala	His	Leu	Ser
Asp 225	Ile	Cys	Ile	Ser	Thr 230	Ser	Ala	Ala	Pro	Thr 235	Tyr	Phe	Pro	Ala	His 240
Phe	Phe	Lys	Thr	Glu 245	Ala	Thr	Asp	Gly	Arg 250	Pro	Pro	Arg	Glu	Tyr 255	His
Leu	Val	Asp	Gly 260	Gly	Val	Ala	Ala	Asn 265	Asn	Pro	Thr	Met	Val 270	Ala	Met
Ser	Met	Leu 275	Thr	Lys	Glu	Val	His 280	Arg	Arg	Asn	Pro	Asn 285	Phe	Asn	Ala
Gly	Ser 290	Pro	Thr	Glu	Tyr	Thr 295	Asn	Tyr	Leu	Ile	Ile 300	Ser	Val	Gly	Thr
Gly 305	Ser	Ala	Lys	Gln	Ala 310	Glu	Lys	Tyr	Thr	Ala 315	Glu	Gln	Cys	Ala	Lys 320
Trp	Gly	Leu	Ile	Gln 325	Trp	Leu	Tyr	Asn	Gly 330	Gly	Phe	Thr	Pro	Ile 335	Ile
Asp	Ile	Phe	Ser 340	His	Ala	Ser	Ser	Asp 345	Met	Val	Asp	Ile	His 350	Ala	Ser
Ile	Leu	Phe 355	Gln	Ala	Leu	His	Cys 360	Glu	Lys	Lys	Tyr	Leu 365	Arg	Ile	Gln
Leu	Tyr 370	Tyr	Ala	Gly	Tyr	Phe 375	Asp	Trp	Glu	Arg	Ile 380	Val	Arg	Gly	His
Arg 385		Gln	Gly	Glu	His 390	Gly	Val	Ser	Asp	Ile 395		Arg	Pro	Gly	Ala 400
Ala	Gln	Glu	Ala	Ser 405		Glu	Ser	Glu	His 410		His	Arg	Ala	Val 415	Arg
Val	Leu	Arg	Arg 420		His	Lys	Cys	Thr 425	Val	Ala	Ser	Leu	Arg 430		Ala
	Leu 292(BNT_			Gln	Ala	Thr	Gln	Glu		Ser 0	Gln	Leu	Gln	Leu	Ile

435 440 445

Asn Thr Ser Leu Ser His Ser Met Cys Ser Phe Arg Arg Phe Thr Val 450 455 460

Ser Tyr Phe Phe Asn Phe Asn Ser Val Cys Val Leu Cys Val Leu Cys 465 470 475 480

Val Tyr Gln Thr Phe Lys Phe Asn Gln Lys Lys Lys Lys Lys Lys 495

Lys Lys Lys Lys Lys Lys Lys Arg Ala Ala 500 505

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1 5 10 15

Pro Pro Pro Ser Thr Gly Lys Leu Ile Thr Ile Leu Ser Ile Asp Gly 20 25 30

Gly Gly Ile Arg Gly Leu Ile Pro Ala Thr Ile Ile Ala Tyr Leu Glu 35 40 45

Ala Lys Leu Gln Glu Leu Asp Gly Pro Asp Ala Arg Ile Ala Asp Tyr 50 55 60

Phe Asp Val Ile Ala Gly Thr Ser Thr Gly Ala Leu Leu Ala Ser Met 65 70 75 80

Leu Ala Ala Pro Asp Glu Asn Asn Arg Pro Leu Phe Ala Ala Lys Asp 85 90 95

Leu Thr Thr Phe Tyr Leu Glu Asn Gly Pro Lys Ile Phe Pro Gln Lys 100 105 110

Lys Ala Gly Leu Leu Thr Pro Leu Arg Asn Leu Leu Gly Leu Val Arg 115 120 125

Gly Pro Lys Tyr Asp Gly Val Phe Leu His Asp Lys Ile Lys Ser Leu 130 135 140

Thr His Asp Val Arg Val Ala Asp Thr Val Thr Asn Val Ile Val Pro 145 150 155 160

Ala Phe Asp Val Lys Ser Leu Gln Pro Ile Ile Phe Ser Thr Tyr Glu 165 170 175

Ala Lys Thr Asp Thr Leu Lys Asn Ala His Leu Ser Asp Ile Cys Ile 180 185 190

Ser Thr Ser Ala Ala Pro Thr Tyr Phe Pro Ala His Phe Phe Lys Thr 195 200 205

Glu Ala Thr Asp Gly Arg Pro Pro Arg Glu Tyr His Leu Val Asp Gly
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91

215 210

Gly Val Ala Ala Asn Asn Pro Thr Met Val Ala Met Ser Met Leu Thr 235 230 Lys Glu Val His Arg Arg Asn Pro Asn Phe Asn Ala Gly Ser Pro Thr 245 Glu Tyr Thr Asn Tyr Leu Ile Ile Ser Val Gly Thr Gly Ser Ala Lys 265 Gln Ala Glu Lys Tyr Thr Ala Glu Gln Cys Ala Lys Trp Gly Leu Ile Gln Trp Leu Tyr Asn Gly Gly Phe Thr Pro Ile Ile Asp Ile Phe Ser 295 290 His Ala Ser Ser Asp Met Val Asp Ile His Ala Ser Ile Leu Phe Gln 315 310 Ala Leu His Cys Glu Lys Lys Tyr Leu Arg Ile Gln Asp Asp Thr Leu 325 Thr Gly Asn Ala Ser Ser Val Asp Ile Ala Thr Lys Glu Asn Met Glu 345 Ser Leu Ile Ser Ile Gly Gln Glu Leu Leu Asn Lys Pro Val Ala Arg 360 Val Asn Ile Asp Thr Gly Leu Tyr Glu Ser Cys Glu Gly Glu Gly Thr 375 370 Asn Ala Gln Ser Leu Ala Asp Phe Ala Lys Gln Leu Ser Asp Glu Arg 395 390 Lys Leu Arg Lys Ser Asn Leu Asn Ser Asn 405 <210> 291 410 <211> <212> PRT <213> Zea mays <400> 291 Met Gly Ser Ile Gly Arg Gly Thr Ala Asn Cys Ala Thr Val Pro Gln 10 Pro Pro Pro Ser Thr Gly Lys Leu Ile Thr Ile Leu Ser Ile Asp Gly 20 Gly Gly Ile Arg Gly Leu Ile Pro Ala Thr Ile Ile Ala Tyr Leu Glu Ala Lys Leu Gln Glu Leu Asp Gly Pro Asp Ala Arg Ile Ala Asp Tyr 55

Leu Ala Ala Pro Asp Glu Asn Asn Arg Pro Leu Phe Ala Ala Lys Asp H: 544092(BNT 01!.DOC)

Phe Asp Val Ile Ala Gly Thr Ser Thr Gly Ala Leu Leu Ala Ser Met

Leu	Thr	Thr	Phe 100	Tyr	Leu	Glu		Gly 105	Pro	Lys	Ile	Phe	Pro 110	Gln	Lys
Lys	Ala	Gly 115	Leu	Leu	Thr	Pro	Leu 120	Arg	Asn	Leu	Leu	Gly 125	Leu	Val	Arg
Gly	Pro 130	Lys	Tyr	Asp	Gly	Val 135	Phe	Leu	His	Asp	Lys 140	Ile	Lys	Ser	Leu
Thr 145	His	Asp	Val	Arg	Val 150	Ala	Asp	Thr	Val	Thr 155	Asn	Val	Ile	Val	Pro 160
Ala	Phe	Asp	Val	Lys 165	Tyr	Leu	Gln	Pro	Ile 170	Ile	Phe	Ser	Thr	Tyr 175	Glu
Ala	Lys	Thr	Asp 180	Ala	Leu	Lys	Asn	Ala 185	His	Leu	Ser	Asp	Ile 190	Cys	Ile
Ser	Thr	Ser 195	Ala	Ala	Pro	Thr	Tyr 200	Phe	Pro	Ala	His	Phe 205	Phe	Lys	Thr
Glu	Ala 210	Thr	Asp	Gly	Arg	Pro 215	Pro	Arg	Glu	Tyr	His 220	Leu	Val	Asp	Gly
Gly 225	Val	Ala	Ala	Asn	Asn 230	Pro	Thr	Met	Val	Ala 235	Met	Ser	Met	Leu	Thr 240
Lys	Glu	Val	His	Arg 245	Arg	Asn	Pro	Asn	Phe 250	Asn	Ala	Gly	Ser	Pro 255	Thr
Glu	Tyr	Thr	Asn 260	Tyr	Leu	Ile	Ile	Ser 265	Val	Gly	Thr	Gly	Ser 270	Ala	Lys
Gln	Ala	Glu 275	Lys	Tyr	Thr	Ala	Glu 280	Gln	Cys	Ala	Lys	Trp 285	Gly	Leu	Ile
Gln	Trp 290		Tyr	Asn	Gly	Gly 295	Phe	Thr	Pro	Ile	Ile 300	Asp	Ile	Phe	Ser
His 305		Ser	Ser	Asp	Met 310	Val	Asp	Ile	His	Ala 315	Ser	Ile	Leu	Phe	Gln 320
Ala	Leu	His	Cys	Glu 325	Lys	Lys	Tyr	Leu	Arg 330	Ile	Gln	Asp	Asp	Thr 335	Leu
Thr	Gly	Asn	Ala 340		Ser	Val	Asp	Ile 345		Thr	Lys	Glu	Asn 350	Met	Glu
Ser	Leu	11e 355		Ile	Gly	Gln	Glu 360		Leu	Lys	Lys	Pro 365	Val	Ala	Arg
Val	Asn 370		Asp	Thr	Gly	Leu 375		Glu	Ser	Cys	Asp 380	Gly	Glu	Gly	Thr
Asr 385		a Glr	ser	Leu	Ala 390		Phe	Ala	Lys	395	Leu	Ser	Asp	Glu	Arg 400
_		a Arç		Ser 405		Leu	Asn	Ser	410						

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Pro Pro Pro Ser Thr Gly Lys Leu Ile Thr Ile Leu Ser Ile Asp Gly 20 25 30

Gly Gly Ile Arg Gly Leu Ile Pro Ala Thr Ile Ile Ala Tyr Leu Glu 35 40 45

Ala Lys Leu Gln Glu Leu Asp Gly Pro Asp Ala Arg Ile Ala Asp Tyr 50 55 60

Phe Asp Val Ile Ala Gly Thr Ser Thr Gly Ala Leu Leu Ala Ser Met 65 70 75 80

Leu Ala Ala Pro Asp Glu Asn Asn Arg Pro Leu Phe Ala Ala Lys Asp 85 90 95

Leu Thr Thr Phe Tyr Leu Glu Asn Gly Pro Lys Ile Phe Pro Gln Lys
100 105 110

Lys Ala Gly Leu Leu Thr Pro Leu Arg Asn Leu Leu Gly Leu Val Arg 115 120 125

Gly Pro Lys Tyr Asp Gly Val Phe Leu His Asp Lys Ile Lys Ser Leu 130 135 140

Thr His Asp Val Arg Val Ala Asp Thr Val Thr Asn Val Ile Val Pro 145 150 155 160

Ala Phe Asp Val Lys Ser Leu Gln Pro Ile Ile Phe Ser Thr Tyr Glu 165 170 175

Ala Lys Thr Asp Thr Leu Lys Asn Ala His Leu Ser Asp Ile Cys Ile 180 185 190

Ser Thr Ser Ala Ala Pro Thr Tyr Phe Pro Ala His Phe Phe Lys Ile 195 200 205

Glu Ala Thr Asp Gly Arg Pro Pro Arg Glu Tyr His Leu Val Asp Gly 210 215 220

Gly Val Ala Ala Asn Asn Pro Thr Met Val Ala Met Ser Met Leu Thr 225 230 235 240

Lys Glu Val His Arg Arg Asn Pro Asn Phe Asn Ala Gly Ser Pro Thr

Glu Tyr Thr Asn Tyr Leu Ile Ile Ser Val Gly Thr Gly Ser Ala Lys 260 265 270

Gln Ala Glu Lys Tyr Thr Ala Glu Gln Cys Ala Lys Trp Gly Leu Ile 275 280 285 H:544092(BNT_01LDOC) 94 Gln Trp Leu Tyr Asn Gly Gly Phe Thr Pro Ile Ile Asp Ile Phe Ser 290 295 300

His Ala Ser Ser Asp Met Val Asp Ile His Ala Ser Ile Leu Phe Gln 305 310 315 320

Ala Leu His Cys Glu Lys Lys Tyr Leu Arg Ile Gln Asp Asp Thr Leu 325 330 335

Thr Gly Asn Ala Ser Ser Val Asp Ile Ala Thr Lys Glu Asn Met Glu 340 345 350

Ser Leu Ile Ser Ile Gly Gln Glu Leu Leu Asn Lys Pro Val Ala Arg 355 360 365

Val Asn Ile Asp Thr Gly Leu Tyr Glu Ser Cys Glu Gly Glu Gly Thr 370 375 380

Asn Ala Gln Ser Leu Ala Asp Phe Ala Lys Gln Leu Ser Asp Glu Arg 385 390 395 400

Lys Leu Arg Lys Ser Asn Leu Asn Ser Asn 405 410

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1

<211> 337

<212> PRT

<213> Zea mays

<400> 293

Met Gly Ser Ile Gly Arg Gly Thr Ala Asn Cys Ala Thr Val Pro Gln $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Pro Pro Pro Ser Thr Gly Lys Leu Ile Thr Ile Leu Ser Ile Asp Gly

Gly Gly Ile Arg Gly Leu Ile Pro Ala Thr Ile Ile Ala Tyr Leu Glu
35 40 45

Ala Lys Leu Gln Glu Leu Asp Gly Pro Asp Ala Arg Ile Ala Asp Tyr 50 55 60

Phe Asp Val Ile Ala Gly Thr Ser Thr Gly Ala Leu Leu Ala Ser Met 65 70 75 80

Leu Ala Ala Pro Asp Glu Asn Asn Arg Pro Leu Phe Ala Ala Lys Asp 85 90 95

Leu Thr Thr Phe Tyr Leu Glu Asn Gly Pro Lys Ile Phe Pro Gln Lys
100 105 110

Lys Ala Gly Leu Leu Thr Pro Leu Arg Asn Leu Leu Gly Leu Val Arg 115 120 125

Gly Pro Lys Tyr Asp Gly Val Phe Leu His Asp Lys Ile Lys Ser Leu 130 135 140

Thr His Asp Val Arg Val Ala Asp Thr Val Thr Asn Val Ile Val Pro 145 150 155 160

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Ala Phe Asp Val Lys Tyr Leu Gln Pro Ile Ile Phe Ser Thr Tyr Glu
                165
Ala Lys Thr Asp Ala Leu Lys Asn Ala His Leu Ser Asp Ile Cys Ile
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Ser Thr Ser Ala Ala Pro Thr Tyr Phe Pro Ala His Phe Phe Lys Thr
                            200
Glu Ala Thr Asp Gly Arg Pro Pro Arg Glu Tyr His Leu Val Asp Gly
                        215
Gly Val Ala Ala Asn Asn Pro Thr Met Val Ala Met Ser Met Leu Thr
                    230
                                        235
Lys Glu Val His Arg Arg Asn Pro Asn Phe Asn Ala Gly Ser Pro Thr
                                    250
                245
Glu Tyr Thr Asn Tyr Leu Ile Ile Ser Val Gly Thr Gly Ser Ala Lys
                                265
Gln Ala Glu Lys Tyr Thr Ala Glu Gln Cys Ala Lys Trp Gly Leu Ile
                            280
                                                285
Gln Trp Leu Tyr Asn Gly Gly Phe Thr Pro Ile Ile Asp Ile Phe Ser
                        295
His Ala Ser Ser Asp Met Val Asp Ile His Ala Ser Ile Leu Phe Gln
                    310
                                        315
Ala Leu His Cys Glu Lys Lys Tyr Leu Arg Ile Gln Leu Tyr Tyr Ala
                325
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Gly
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<210> 295
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